#### **USAID/Jamaica's Environmental Program**



Promoting Government/Community/Private Sector Partnership Program in Coastal Water Quality Monitoring

Cumberland, Maryland

Presented by

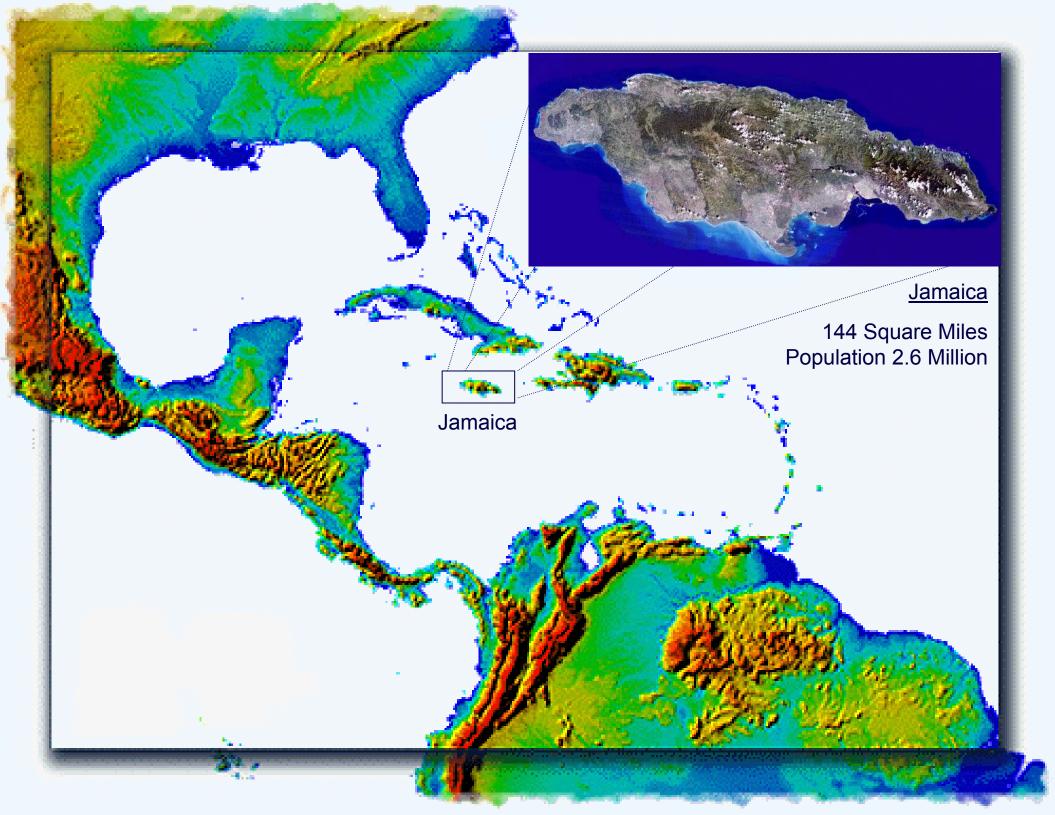
**Howard Batson and Louis Daley** 

July 19, 2001











Improved quality of key natural resources in selected areas that are both environmentally and economically significant

# **Our Activities**

- Ridge to Reef Watershed Project (R2RW)
- Coastal Water Quality Improvement Project (Cwip)
- Environmental Audits for Sustainable Tourism (East)

# **Target Sites**





# Framework

Coastal Water Quality Improved in Environmentally and Economically Significant Areas

#### CR 1

Community-based initiatives to identify, prioritize, & address environmental concerns supported.

#### CR 2

Operation and maintenance of municipal wastewater systems developed and improved.

#### CR3

Environmental practices of industries and commercial establishments improved.

#### CR4

NGO-government partnerships to expand & regularize coastal water quality monitoring developed.

#### CR 5

Coordination of coastal zone management activities among Jamaican Govt. agencies, int'l donors, & NGOs improved.

# Government/Community Coastal Water Quality Monitoring Partnership Program

#### Issues

- Sensitive nature of coastal water quality data
- Low priority for water quality monitoring and dissemination of data
- Absence of regular water quality monitoring program
- Lack of defensible water quality data for sound environmental decision-making
- Absence of standardized monitoring protocols and procedures
- One way movement of information

## **Program Objectives**

Establish NGO-Government partnership to:

- Regularize water quality monitoring program
- Standardize monitoring procedures and protocols
- Produce defensible data
- Make data available to stakeholders and interested parties
- Promote use of water quality information in coastal zone management issues

# Government/Community Coastal Water Quality Monitoring Partnership Program

#### **Strategy**

- Broad involvement of diverse stakeholders
- Sensitize stakeholders to the importance of water quality and link to economic viability
- Train local participants
- Assure local sustainability of program
- Apply verifiable water quality data to environmental decision making
- Link into National Coastal Water Quality Monitoring Program

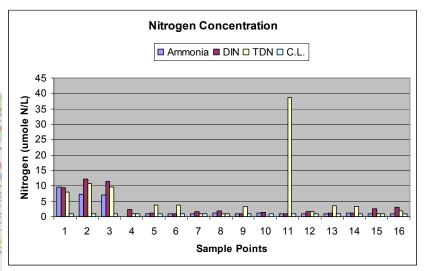
## Partners and Partnership Roles

- Government
  - Analyses
  - Inter-lab calibration/comparison exercise
  - Data interpretation
  - Training
  - Oversight and national coordination
- NGOs/CBOs/Private Sector
  - Provision of boats, boatmen, samplers
  - Local coordination
  - Data dissemination
  - Implementation of intervention strategies with government



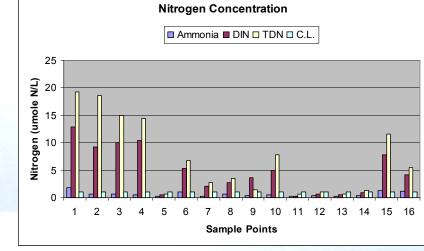


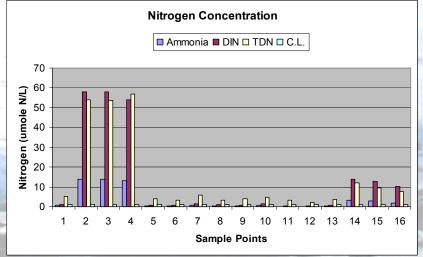




# December (1999)



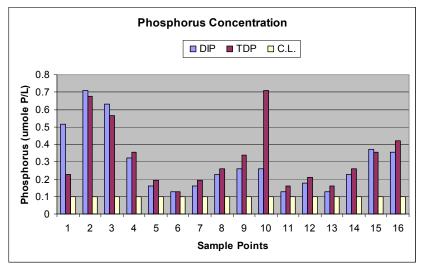




June (2000)

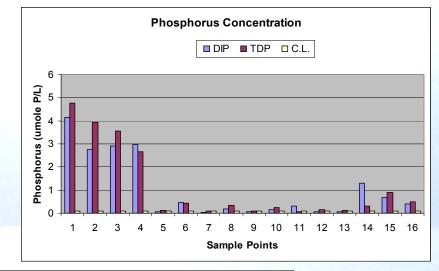
Negril EPA Water Quality Data (Sample)

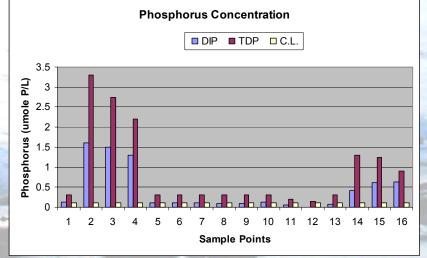




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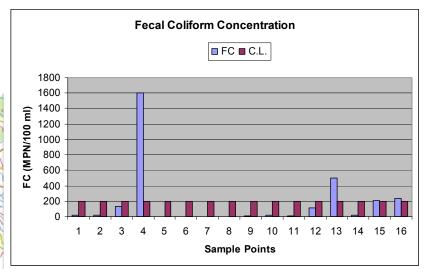






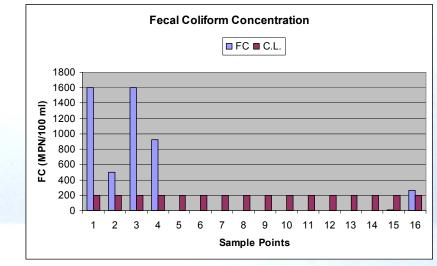
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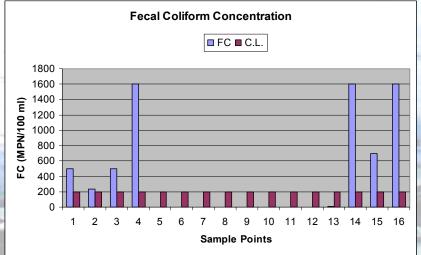




# December (1999)







June (2000)

#### Warning Levels for Selected Parameters

	<u>Parameter</u>	<u>Warning</u>	<b>Detection</b>	Categ
		<u>Level</u>	<u>Limit</u>	exce
	Suspended			
	Solids (TSS)	10 mg/L	5 mg/L	Catego warni
	clarity	cloudy		
A	mmonia (NH <sub>3</sub> )	<b>0.6μM</b>	<b>0.2μM</b>	Catego warnii
N	litrate (DIN)**	<b>1.0μM</b>	<b>0.1μM</b>	th
Pł	osphate (DIP)	<b>0.1μM</b>	<b>0.02</b> μ <b>M</b>	** Ni
C	oliforms (FC)	200 MPN	5 MPN	Twi

Category 1: never exceed warning limit

Category 2: exceed warning limit once

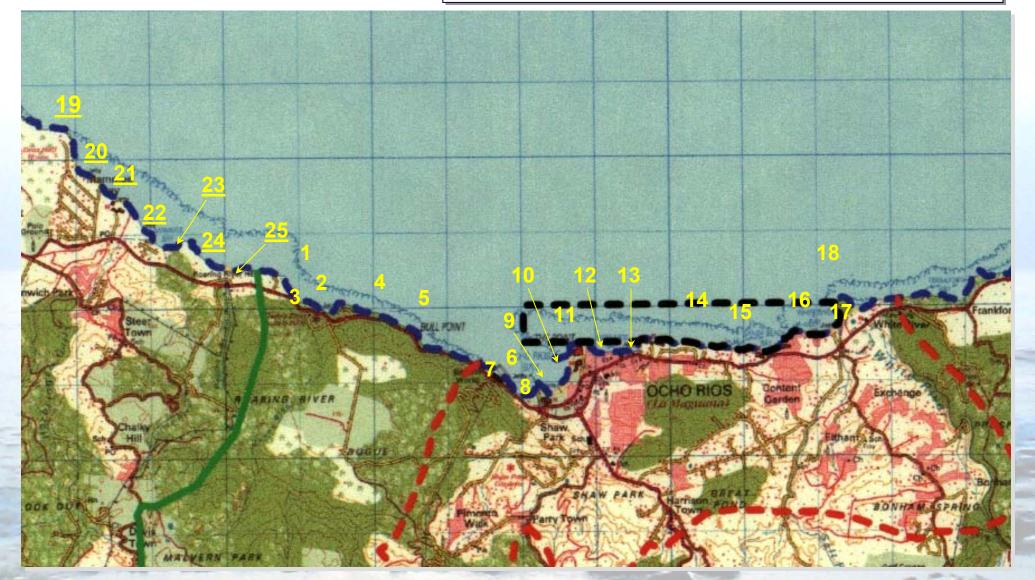
Category 3: exceed warning limit more than once

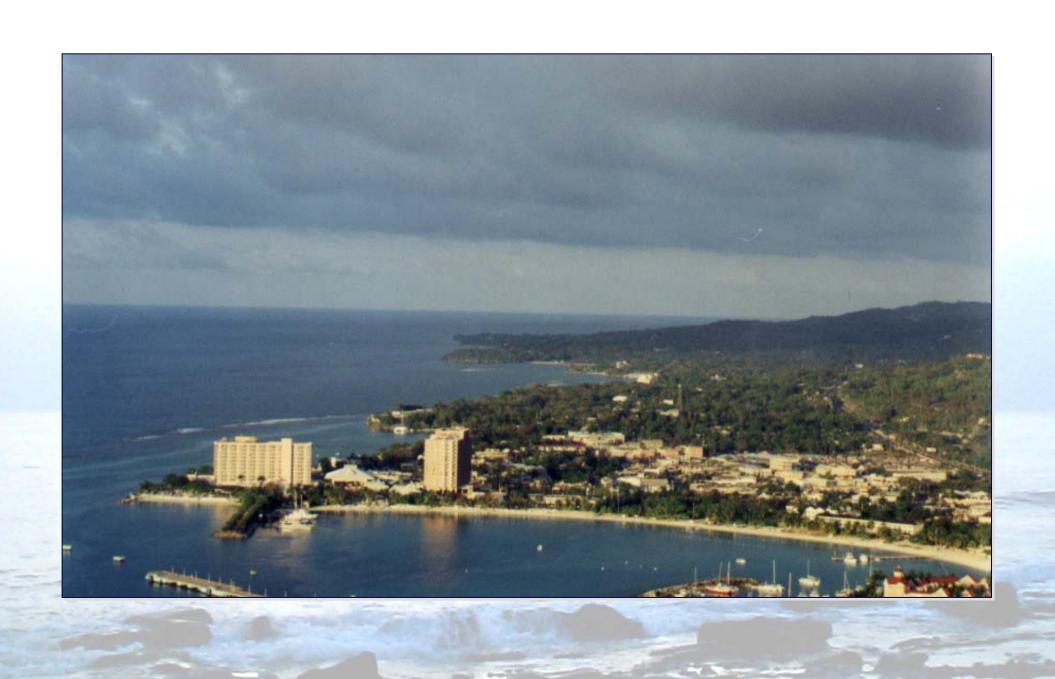
\*\* Nitrate: Once, Twice, 3 times

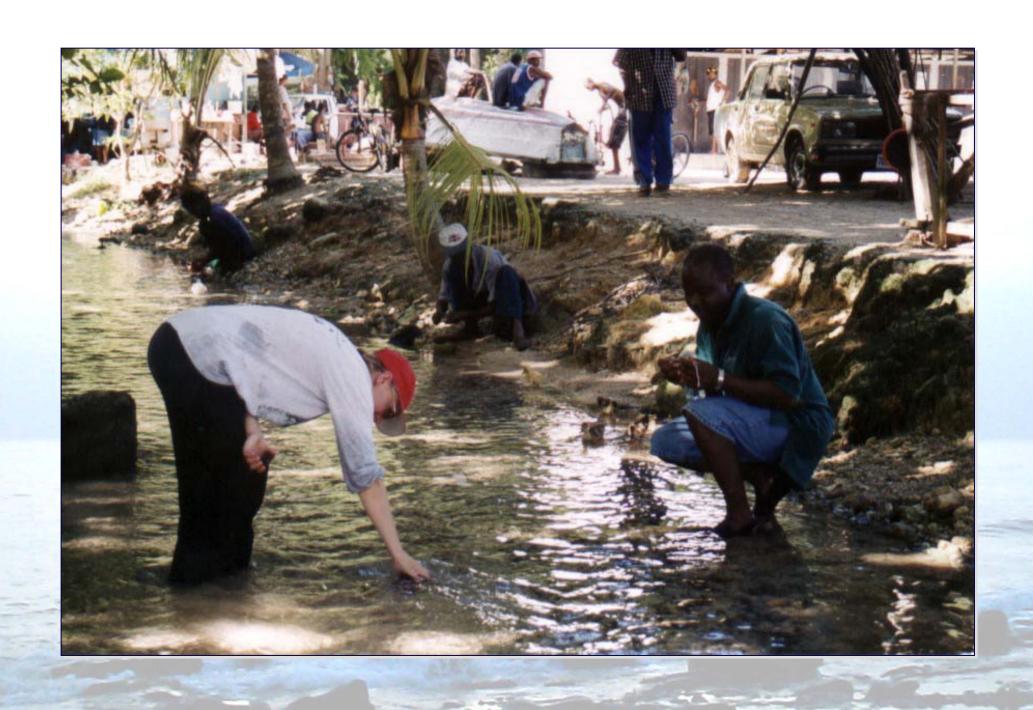
Six data sets (Jan - Nov, 2000)

## Ocho Rios Water Quality Data

Location	Number of Sites	Category
West Beaches	5	1
East Beaches	7	2
River Outfalls	7	3









#### **Results and Benefits**

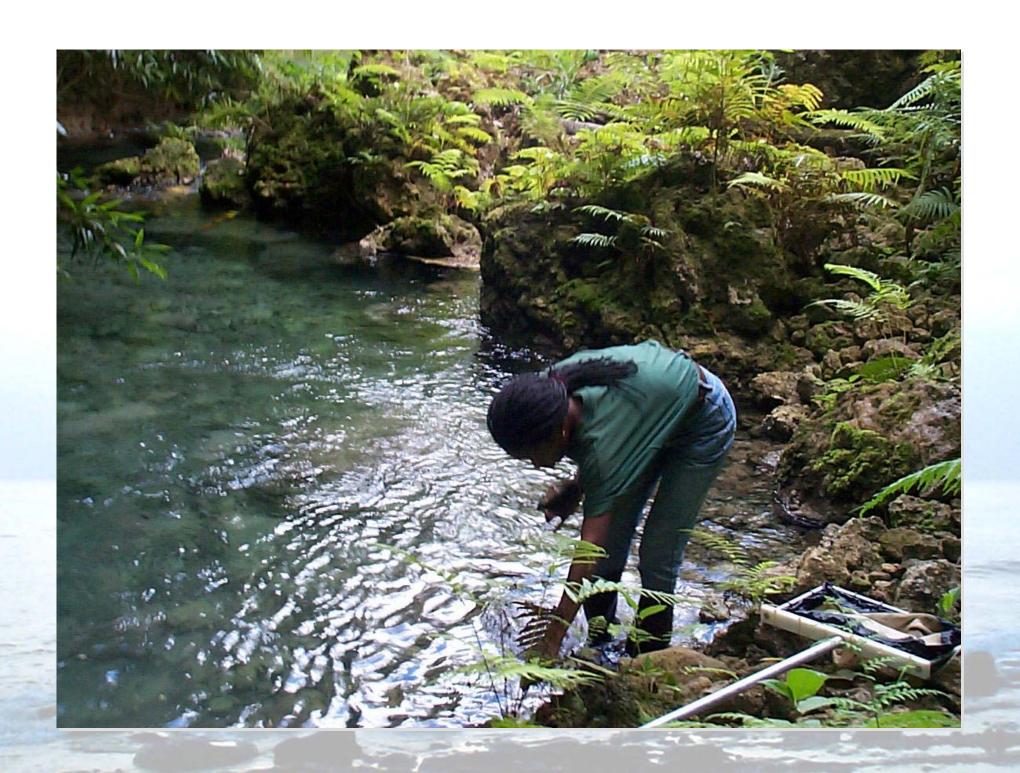
- Rationalization of coastal water quality monitoring program
- MOUs executed formalizing broad based partnerships in Negril and Ocho Rios
- Community program participants trained with government, university, and project involvement
- Program for inter-laboratory calibration tested and established

#### **Results and Benefits**

- Defensible data disseminated to broad based stakeholder group
- Problem areas identified and intervention strategies formulated and administered
- Stakeholders engaged in participatory process to address identified problems
- Foundation laid for introduction of Blue Flag Certification
   Program for beaches and marinas
- Strategic Plan for strengthening government laboratory developed

#### **Results and Benefits**

- Use of water quality data for special studies to identify sources of pollution
- Preparation of mitigation strategies and correction programs as warranted for improved environmental management
- Linking economic incentives, tied to economic development, to program continuity
- NEPA able to maintain water quality database
- Water quality information incorporated into planning process
- Selected coastal sites will be participating in Blue Flag program requiring introduction of environmental management actions





# Sustainability

#### Issue

- Field logistics and expenses
- Analytical costs

#### **Solution**

- Field activities assumed by community groups
- Rationalize sample parameters, sample sites, and sampling fequency
- Analyses conduct by or subsidized by Government

# Sustainability

#### Issue

National coordination

Community interest

#### **Solution**

- National coordination through National Water Quality
   Monitoring Program
- Facilitate community-wide environment education and awareness programs
- Link program to local and national economic incentives, eg. Green Globe, Blue Flag Certification Program

#### **Lessons Learned**

- Community members need education and awareness of environmental issues before they can be expected to meaningfully contribute to environmental programs
- Community input important in successful design and implementation of community programs
- Sustainability of Water Quality Monitoring Partnership Program must be linked to economic benefits to be successful
- Stakeholder buy-in critical to ensuring program sustainability

# Accomplishments

- Created and implemented national government/community
   Water Quality Monitoring Program
- Facilitated introduction of Blue Flag certification program for beaches and marinas
- Preparing strategy for the establishment of National Water Quality Monitoring Program
- Initiated practical viable alternatives to achieve program sustainability

# CVVIP Solving Problems Through Local Action